



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/824,134 | 04/14/2004 | Stephen McNally | 200400723-1 | 6434 |

22879 7590 07/21/2005

HEWLETT PACKARD COMPANY
P O BOX 272400, 3404 E. HARMONY ROAD
INTELLECTUAL PROPERTY ADMINISTRATION
FORT COLLINS, CO 80527-2400

EXAMINER

COLILLA, DANIEL JAMES

| ART UNIT | PAPER NUMBER |
|----------|--------------|
|----------|--------------|

2854

DATE MAILED: 07/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/824,134

Applicant(s)

MCNALLY ET AL.

Examiner

Daniel J. Colilla

Art Unit

2854

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 July 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-36 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 26 is/are allowed.
- 6) ☐ Claim(s) 1,4,7,9,11-15,17-21,23 and 25 is/are rejected.
- 7) ☒ Claim(s) 2,3,5,6,8,10,16,22 and 24 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 7/29/03.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

1. Claim 19 is objected to because of the following informalities: in claim 19, line 3, “the capacitive mat” has no antecedent basis in the claims.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tanno (US 6,419,411) in view of Wakatsuki et al. (JP 03-051237).

With respect to claim 1, Tanno discloses the claimed method except for the step of reversing the polarity of the first and second nodes. Tanno discloses energizing first and second nodes 32a and 33a respectively (Tanno, col. 9, lines 5-21), of a capacitive mat 15 with opposite polarity. A first media P is loaded onto the capacitive mat 15 as shown in Figure 2 of Tanno. Rotation of the mat 15 positions the first media P in a print zone defined under print heads 5k, 5c, 5m, and 5y as shown in Figure 2; the print heads then print an image on the first media P. Wakatsuki et al. teaches inverting (reversing) the polarity of the nodes 3 and 4 of a capacitive mat 1 periodically to re-strengthen the attracting force of the mat 1 that has weakened over time. It would have been obvious to combine the teaching of Wakatsuki et al. with the method

Art Unit: 2854

disclosed by Tanno for the advantage of maintaining an effective attractive force on a capacitive mat over extended periods of time.

With respect to claim 4, Tanno discloses that after a first media P is printed, it is removed from the print zone and delivered to a tray 30, thus removing the first media from the capacitive mat as shown in Figure 1 of Tanno. As is known in the art, a printer such as the one disclosed by Tanno is used to repeatedly print several sheets of print media P. Since Wakatsuki et al. discloses reversing the polarity of the voltage applied to the nodes 3 and 4 "every specific period of time," eventually another print media will be loaded after the reversing of the polarity. This print media that is loaded at this time can be called the second media.

4. Claims 7, 9, 11, 12, 13, 15, 18, 19, 20, 21, 23 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nomura et al. (JP 06-206326) in view of Wakatsuki et al. (JP 03-051237).

With respect to claims 7 and 11, Nomura et al. discloses an image forming device with a media handling apparatus except for the polarity control device. Nomura et al. discloses an image forming device with a media handling apparatus including a print engine 21 and a platen 10 having first and second conductors 3a and 3b respectively such that individual first conductors 3a are separated by at least one individual second conductor 3b as shown in Figure 2 of Nomura et al. (note, the text of the Nomura et al. patent associates the electrodes with reference signs 13a and 13b). Further disclosed by Nomura et al., is a non-conductive layer 14 over the electrodes 13a and 13b as shown in Figure 3 of Nomura et al. (see paragraph [0008] of the machine translation of Nomura et al.).

Wakatsuki et al. teaches inverting (reversing) the polarity of the nodes 3 and 4 of a capacitive mat 1 periodically to re-strengthen the attracting force of the mat 1 that has weakened over time. A controller would inherently be required to operate the polarity inversion circuit 12. Additionally, an input signal is inherent in order to indicate to the controller when it is time to reverse the polarity. It would have been obvious to combine the teaching of Wakatsuki et al. with the media handling apparatus disclosed by Watanabe for the advantage of maintaining an effective attractive force on a capacitive mat over extended periods of time.

With respect to claims 9 and 18, the platen 10 is a rotating drum for holding print medium 11 in an arced shape as shown in Figure 3 of Nomura et al.

With respect to claims 12 and 13, Nomura et al. discloses that after a first media 11 is printed, it is removed from the platen 10 and print zone and delivered to a delivery path 29, thus removing the first media from the platen 10. As is known in the art, a printer such as the disclosed by Nomura et al. is used to repeatedly print several sheets of print media 11. Since Wakatsuki et al. discloses reversing the polarity of the voltage applied to the nodes 3 and 4 “every specific period of time,” eventually the polarity will be reversed after the media is removed from the platen 10 and print zone.

With respect to claim 15, since Wakatsuki et al. discloses reversing the polarity of the voltage applied to the nodes 3 and 4 “every specific period of time,” eventually the polarity will be reversed after the print engine has at least partially formed an image on the media.

With respect to claim 19, Nomura et al. discloses a device except for the means for energizing first and second nodes of a capacitive mat. Nomura et al. discloses a device including a print engine 21 for forming an image on a media positioned in a print zone. Wakatsuki et al.

Art Unit: 2854

teaches means 17 for inverting (reversing) the polarity of the nodes 3 and 4 of a capacitive mat 1 periodically to re-strengthen the attracting force of the mat 1 that has weakened over time.

Nomura et al. discloses that after a first media 11 is printed, it is removed from the platen 10 and print zone and delivered to a delivery path 29, thus removing the first media from the platen 10.

As is known in the art, a printer such as the disclosed by Nomura et al. is used to repeatedly print several sheets of print media 11. Since Wakatsuki et al. discloses reversing the polarity of the voltage applied to the nodes 3 and 4 “every specific period of time,” eventually the polarity will be reversed after the media is removed from the print zone. It would have been obvious to combine the teaching of Wakatsuki et al. with the media handling apparatus disclosed by Watanabe for the advantage of maintaining an effective attractive force on a capacitive mat over extended periods of time.

With respect to claim 20, Nomura et al. discloses a method for controlling a capacitive mat except for the step of reversing the polarity of the first and second nodes. Nomura et al. discloses a step of forming an image on a media positioned in a print zone on a capacitive mat 12 as shown in Figures 1-2 of Nomura et al. Wakatsuki et al. teaches inverting (reversing) the polarity of the nodes 3 and 4 of a capacitive mat 1 periodically to re-strengthen the attracting force of the mat 1 that has weakened over time. It would have been obvious to combine the teaching of Wakatsuki et al. with the method disclosed by Nomura et al. for the advantage of maintaining an effective attractive force on a capacitive mat over extended periods of time.

With respect to claim 21, since Wakatsuki et al. discloses reversing the polarity of the voltage applied to the nodes 3 and 4 “every specific period of time,” eventually one instance of

Art Unit: 2854

the polarity being reversed will occur after a sheet (any printed sheet) is removed from the capacitive mat.

With respect to claim 23, Nomura et al. discloses removing the media 11 from the capacitive mat and feeding it into a delivery path 29 as shown in Figure 1 of Nomura et al. Since Wakatsuki et al. discloses reversing the polarity of the voltage applied to the nodes 3 and 4 “every specific period of time,” eventually one instance of the polarity being reversed will occur before a subsequent sheet is loaded onto the capacitive mat.

With respect to claim 25, since Wakatsuki et al. discloses reversing the polarity of the voltage applied to the nodes 3 and 4 “every specific period of time,” eventually one instance of the polarity being reversed will occur after a sheet (any printed sheet) is removed from the print zone.

5. Claims 7, 11 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Watanabe (JP 2000-246981) in view of Wakatsuki et al. (JP 03-051237) and Sato et al. (JP 10-087102).

With respect to claims 7 and 11 Watanabe discloses the claimed image forming device and media handling apparatus except for the polarity control device and the non-conductive layer disposed over the first and second conductors. Watanabe discloses an image forming device and media handling apparatus including a print engine 9 and a platen 1 having first and second conductors 3P and 3N respectively such that individual first conductors 3P are separated by at least one individual second conductor 3N as shown in Figures 1 and 6 of Watanabe.

Sato et al. teaches a media handling apparatus with electrodes 12 and an non-conductive layer 13 on top of the electrodes 12. It would have been obvious to combine the teaching of Sato et al. with the media handling apparatus disclosed by Watanabe for the advantage of providing a smooth conveying surface that aides in reducing the friction (see paragraph [0011] of the machine translation of Sato et al.).

Wakatsuki et al. teaches inverting (reversing) the polarity of the nodes 3 and 4 of a capacitive mat 1 periodically to re-strengthen the attracting force of the mat 1 that has weakened over time. A controller would inherently be required to operate the polarity inversion circuit 12. Additionally, an input signal is inherent in order to indicate to the controller when it is time to reverse the polarity. It would have been obvious to combine the teaching of Wakatsuki et al. with the media handling apparatus disclosed by Watanabe for the advantage of maintaining an effective attractive force on a capacitive mat over extended periods of time.

With respect to claim 17, Watanabe discloses that the print engine is an ink jet print engine (see paragraph [0023] of the machine translation of Watanabe).

6. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nomura et al. (JP 06-206326) in view of Wakatsuki et al. (JP 03-051237), as applied to claims 7, 9, 11, 12, 13, 15, 18, 19, 20, 21, 23 and 25 above and further in view of Tanno (US 6,419,411).

Nomura et al. in view of Wakatsuki et al. discloses the claimed image forming device except for the output tray. However, Tanno discloses an output tray 30 as shown in Figure 1 of Tanno. It would have been obvious to combine the teaching of Tanno with the image forming apparatus disclosed by Nomura et al. in view of Wakatsuki et al. for the advantage of an

Art Unit: 2854

organized storage system for the printed sheets. Nomura et al. discloses that after a first media 11 is printed, it is removed from the platen 10 and print zone and delivered to a delivery path 29, thus removing the first media from the platen 10. As is known in the art, a printer such as the disclosed by Nomura et al. is used to repeatedly print several sheets of print media 11. Since Wakatsuki et al. discloses reversing the polarity of the voltage applied to the nodes 3 and 4 “every specific period of time,” eventually the polarity will be reversed after the media is deposited in the output tray.

Allowable Subject Matter

7. Claim 26 is allowed.

8. Claims 2, 3, 5, 6, 8, 10, 16, 22 and 24 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

9. The following is a statement of reasons for the indication of allowable subject matter:

Claim 2 has been indicated as containing allowable subject matter primarily for the step of removing the media from the print zone before the reversing the polarity of the first and second nodes.

Claim 3 has been indicated as containing allowable subject matter primarily for the step of returning the first media to the print zone after the reversing the polarity of the first and second nodes.

Claim 5 has been indicated as containing allowable subject matter primarily for the step of loading the second media onto the capacitive mat within five (5) seconds of the reversing of the polarity of the first and second nodes.

Claim 6 has been indicated as containing allowable subject matter primarily for the step of maintaining the polarities of the first and second nodes while the first media is disposed within the print zone.

Claim 8 has been indicated as containing allowable subject matter primarily for the controller configured to provide the input signal to the polarity control device upon detection of a sheet that has substantially exited a print zone.

Claim 10 has been indicated as containing allowable subject matter primarily for the controller configured to provide the input signal to the polarity control device after detection of a sheet that has been substantially removed from the platen.

Claim 16 has been indicated as containing allowable subject matter primarily for the controller that controls the print engine and circuitry such that the circuitry reverses the polarity of the first and second electrodes no more than five (5) seconds before loading media on the platen.

Claim 22 has been indicated as containing allowable subject matter primarily for the step of returning the media to the print zone after the reversing of the polarity of the first and second nodes.

Claim 24 has been indicated as containing allowable subject matter primarily for the step of loading another piece of media onto the capacitive mat within five (5) seconds of the reversing of the polarity of the first and second nodes.

Art Unit: 2854

Claim 26 has been allowed primarily for the step of loading second media onto the capacitive mat after the reversing of the polarity of the fit and second nodes within five (5) seconds of the reversing the polarity of the first and second nodes.

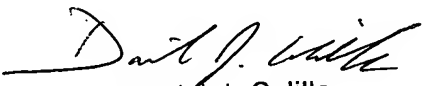
10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Tanno et al. (JP 2000-191172) is cited to show another example of an ink jet printer used with an electrostatic drum platen. Sogo (JP 03-005176) is cited to show another example of a printer with a capacitive mat with polarity reversing means.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel J. Colilla whose telephone number is 571-272-2157. The examiner can normally be reached on M-F 7:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew Hirshfeld can be reached on 571-272-2168. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

July 19, 2005


Daniel J. Colilla
Primary Examiner
Art Unit 2854